TORNADOES IN THE UNITED STATES DURING 1949

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A greater number of tornadoes was reported in the United States during 1949 than in any previous year of record. The 290 tornadoes reported during 1949 exceeded by 142 the annual average, based on the period from 1916 through 1949. The next greatest annual number during this 34-year period occurred in 1933, when 260 tornadoes were reported. Oklahoma reported 62 tornadoes in 1949, the greatest number in any State during the year; Kansas ran a close second with 56; and Missouri was third with 23. Nine tornadoes crossed State boundaries. Tornadoes were reported during each month, on 85 days of the year, and in 33 states.

These storms reached the record-breaking number of 118 during May in contrast to an average of 43 for the month. The greatest number previously recorded in the United States during May was 91 in 1933 and the least number was 5 in 1925. Tornado activity was greatest during the 7-day period, May 15 through 21, in the area from northwestern Texas northeastward over Oklahoma, Kansas, Nebraska, Missouri, and parts of Illinois and Indiana. The three most destructive tornadoes of the year occurred during this period. More tornadoes occurred in Oklahoma during May than in any other State. The total of 33 for the month is greater than ever previously recorded in Oklahoma for an entire year. Kansas was next with a May total of 29, including several funnel clouds which were observed but did not reach the ground. The annual average for this State, over a 34-year period, is 18. April brought the next largest number of these storms, with 34 occurring over the whole country. June was third with 33, and March fourth with 30.

During 1949, tornadoes were responsible for 213 deaths, which is 73 more than occurred in 1948 and 19 less than the yearly average for the country. Arkansas' death toll of 81, 57 of these occurring in a single storm on January 3, was the greatest for any State. In the entire country 69 fatalities occurred during May; this was the greatest number for any month. None occurred during February, July, or August. Total property damage for 1949 in the United States was estimated at $29,940,600, which is more than double the yearly average loss, but $10,759,050 less than in 1948. The greatest property loss for any state was $5,910,100 in Missouri, followed by $5,585,400 in Texas, and $5,526,600 in Oklahoma. Other states in which the damage reached or exceeded $1,000,000 were Arkansas, Indiana, Illinois, Mississippi, Kansas, and South Dakota.

The tornado which caused the greatest property damage struck Amarillo, Tex., on May 15. Property in three city blocks was totally destroyed, with tornado, wind, and hail damage estimated at about $5,300,000. Six persons were killed, and 83 injured. The most destructive storm in Missouri since the St. Louis tornado of September 27, 1927, originated in Cape Girardeau County, Mo., on May 21, 1949, traveled northeastward, and crossed the Mississippi River into Illinois. All of the estimated damage of $4,000,000, however, occurred in Missouri. Twenty-three persons lost their lives, most of them residents of the city of Cape Girardeau which received the brunt of the storm as it passed through the center of the residential district. Another severe tornado on May 21, started near Lambert Field Airport, St. Louis, Mo., and crossed the Mississippi River to Wood River, Ill., where it inflicted great damage. Property damage in Missouri was estimated at $500,000 with no loss of life, but in Illinois the damage amounted to $1,300,000, and five persons were killed.

Three other tornadoes, each causing property damage of more than $1,000,000, occurred on January 3, March 26, and May 21. The January 3 tornado destroyed property estimated at nearly $1,500,000, and its death toll of 58 was the year's greatest for a single storm. It originated in Caddo Parish, La., and after crossing northwestern Louisiana and Columbia, Union, Ouachita, Calhoun, Bradley, and Drew Counties, Ark., dissipated near the Lincoln-Desha County line in that State. The March 26 storm crossed Oklahoma and part of Kansas, causing damage of a little over $1,000,000, and a loss of four lives. The tornado on May 21 began in Illinois and crossed into Indiana where the entire amount of property damage of slightly more than $1,000,000, and 14 fatalities occurred.

A few tornadoes were reported from areas where their occurrence is infrequent or rare. Some of these were observed as funnel clouds which failed to reach the ground. Five of the six tornadoes that occurred in Wyoming were of this character; two being observed near Cheyenne during May, and during June, two in the vicinity of Buffalo and one at Marshall. A small funnel cloud which apparently remained aloft was reported on June 6, about 4 miles east of Cimarron, New Mexico.

The first tornado officially recorded in Nevada was observed north of Reno, on April 18, 1949. A clearly-defined funnel cloud, plainly visible from the city, touched ground at Dry Lake about 15 miles north of Reno, and in 32 minutes swept a path 70 yards wide and 12 miles long across the low divide between Lemon Valley and Spanish Springs Valley, disappearing on the eastern side of Spanish Springs Valley. Twisted and torn juniper trees and desert sage gave evidence that the tornado was sufficiently well developed to destroy buildings, although none were in its path. Minor roof damage at a dude ranch not far distant was the only property damage reported during its passage. Heavy hail immediately followed the tornado, but this also missed any cultivated or populated area.

The tabulations for 1949 are shown in table 1, which follows. They are derived from data on "Severe Storms" appearing in the MONTHLY WEATHER REVIEW and in the CLIMATOLOGICAL DATA publications for the different sections of the United States. The listing shows the approximate monthly and annual number of tornadoes, the number of resultant deaths and injuries, and the property damage caused in the several States and the country as a whole. The "Tracks of Tornadoes during 1949" are shown by chart. There is also included a tabulation (table 2) that shows by years the number of tornadoes and the resulting losses of life and property during the period 1916–49.

TABLE 1.—*Tornadoes and probable tornadoes during 1949*

State[1]	January	February	March	April	May	June	July	August	September	October	November	December	Total
Alabama:													
Number		1						1			3		5
Deaths		0						0			16		16
Injuries		5						0			49		54
Damage ($×1,000)		8.0						3.3			144.0		155.3
Arkansas:													
Number	3		3		1							3	10
Deaths	57		19		0							5	81
Injuries	420		52		0							11	483
Damage ($×1,000)	1,345.6		603.5		3.0							127.0	2,079.1
Colorado:													
Number					2	1	1						4
Deaths					0	0	0						0
Injuries					0	0	0						0
Damage ($×1,000)					200.0	15.0	5.0						220.0
Florida:													
Number		1	4	1	1	1	1	1			1		11
Deaths		0	0	0	0	0	0	0			0		0
Injuries		0	1	1	0	0	0	0			0		2
Damage ($×1,000)		1.0	25.0	10.0	0	0	0.5	0.1			40.0		76.6
Georgia:													
Number				7									7
Deaths				4									4
Injuries				36									36
Damage ($×1,000)				314.0									314.0
Illinois:													
Number			1		3							2	6
Deaths			0		9							0	9
Injuries			0		67							1	68
Damage ($×1,000)			35.0		1,410.0							25.0	1,470.0
Indiana:													
Number		2		1	3								6
Deaths		0		0	17								17
Injuries		0		0	256								256
Damage ($×1,000)		50.6		5.0	1,510.0								1,565.6
Iowa:													
Number					2	2							
Deaths					0	0							0
Injuries					0	0							0
Damage ($×1,000)					30.0	200.0							230.0
Kansas:													
Number	3	1	1	5	29	4		1	1	11			56
Deaths	0	0	0	0	1	0		0	1	1			3
Injuries	1	0	2	0	9	0		0	0	2			14
Damage ($×1,000)	165.5	5.5	10.0	12.5	498.5	83.0		(2)	35.0	[3] 299.0			[3] 1,109.0
Kentucky:													
Number			2		2								4
Deaths			0		1								1
Injuries			4		4								8
Damage ($×1,000)			39.4		760.0								799.4
Louisiana:													
Number	2		3		1		2					1	9
Deaths	2		0		1		0					0	3
Injuries	21		5		12		0					1	39
Damage ($×1,000)	235.0		136.0		25.0		50.0					15.0	461.0
Delaware:													
Number										1			1
Deaths										0			0
Injuries										1			1
Damage ($×1,000)										16.5			16.5
Michigan:													
Number								1					1
Deaths								0					0
Injuries								0					0
Damage ($×1,000)								10.0					10.0
Minnesota:													
Number				1	1		1	1					4
Deaths				0	0		0	0					0
Injuries				1	0		0	0					1
Damage ($×1,000)				75.0	32.0		15.0	7.0					129.0
Mississippi:													
Number	1		6		3								10
Deaths	2		10		0								12
Injuries	17		121		1								139
Damage ($×1,000)	100.0		1,109.0		140.0								1,349.0
Missouri:													
Number		1	1		8	8			1	1	1	2	23
Deaths		0	0		26	0			1	0	0	6	33
Injuries		1	7		218	(4)			0	0	0	15	[3] 247
Damage ($×1,000)		13.5	1.0		5,417.1	111.5			32.0	5.0	30.0	300.0	5,910.1
Montana:							1						1
Number							0						0
Deaths							0						0
Injuries							(2)						(2)
Damage ($×1,000)													
Nebraska:					6	4				3			13
Number					0	3				1			4
Deaths					6	7				4			17
Injuries					261.7	487.0				245.3			994.0
Damage ($×1,000)													

See footnotes at end of table, p. 337.

TABLE 1.—*Tornadoes and probable tornadoes during 1949*—Continued

State[1]	January	February	March	April	May	June	July	August	September	October	November	December	Total
Nevada:													
Number				1									1
Deaths				0									0
Injuries				0									0
Damage ($\times$1,000)				(2)									(2)
Connecticut:													
Number								1					1
Deaths								0					0
Injuries								0					0
Damage ($\times$1,000)								(2)					(2)
New Mexico:													
Number						2							2
Deaths						0							0
Injuries						0							0
Damage ($\times$1,000)						(2)							(2)
North Carolina:													
Number			1		1			4					6
Deaths			0		0			0					0
Injuries			0		(4)			3					[3] 3
Damage ($\times$1,000)			(2)		100.0			[3] 195.0					[3] 295.0
North Dakota:													
Number					1								1
Deaths					0								0
Injuries					0								0
Damage ($\times$1,000)					10.0								10.0
Oklahoma:													
Number		1	3	14	33	7		1		2		1	62
Deaths		0	6	6	5	0		0		0		0	17
Injuries		2	63	71	59	0		0		2		0	197
Damage ($\times$1,000)		10.0	1,318.0	1,590.0	2,497.5	4.0		0.8		106.0		0.3	5,526.6
Pennsylvania:													
Number			1	1	5								7
Deaths			0	0	0								0
Injuries			3	2	10								15
Damage ($\times$1,000)			140.0	4.0	(2)								[5] 144.0
South Dakota:													
Number			1				2						3
Deaths			0				0						0
Injuries			0				0						0
Damage ($\times$1,000)			(2)				1,000.0						[3] 1,000.0
Tennessee:													
Number			1		6								7
Deaths			0		0								0
Injuries			2		6								8
Damage ($\times$1,000)			100.0		387.5								487.5
Texas:													
Number			5	3	10		1			3			22
Deaths			0	3	9		0			1			13
Injuries			6	9	94		0			3			112
Damage ($\times$1,000)			376.0	83.0	5,116.4		0			[3] 10.0			[3] 5,585.4
Virginia:													
Number					1								1
Deaths					0								0
Injuries					0								0
Damage ($\times$1,000)					(2)								(2)
Washington:													
Number												1	1
Deaths												0	0
Injuries												0	0
Damage ($\times$1,000)												1.0	1.0
West Virginia:													
Number									1				1
Deaths									0				0
Injuries									0				0
Damage ($\times$1,000)									2.5				2.5
Wisconsin:													
Number					1		2						3
Deaths					0		0						0
Injuries					0		0						0
Damage ($\times$1,000)					(2)		(2)						(2)
Wyoming:													
Number					2	4							6
Deaths					0	0							0
Injuries					0	0							0
Damage ($\times$1,000)					0	(2)							(2)
Total:													
Number	[3] 8	7	[3] 30	34	[3] 118	33	11	11	[3] 2	21	5	10	[3] 290
Deaths	61	0	35	13	69	3	0	0	2	3	16	11	213
Injuries	459	8	266	120	[3] 742	[3] 7	0	3	0	12	49	28	[3] 1,694
Damage ($\times$1,000)	1,846.1	88.6	[3] 3,892.9	[3] 2,093.5	[3] 18,398.7	[3] 900.5	[3] 1,070.5	[3] 216.2	69.5	[3] 681.8	214.0	468.3	[3] 29,940.6

[1] None reported for States not listed.
[2] Datum unobtained.
[3] Not complete.
[4] Several.
[5] Corrected for boundary-crossing tornadoes. See following tabulation:

Boundary-Crossing Tornadoes

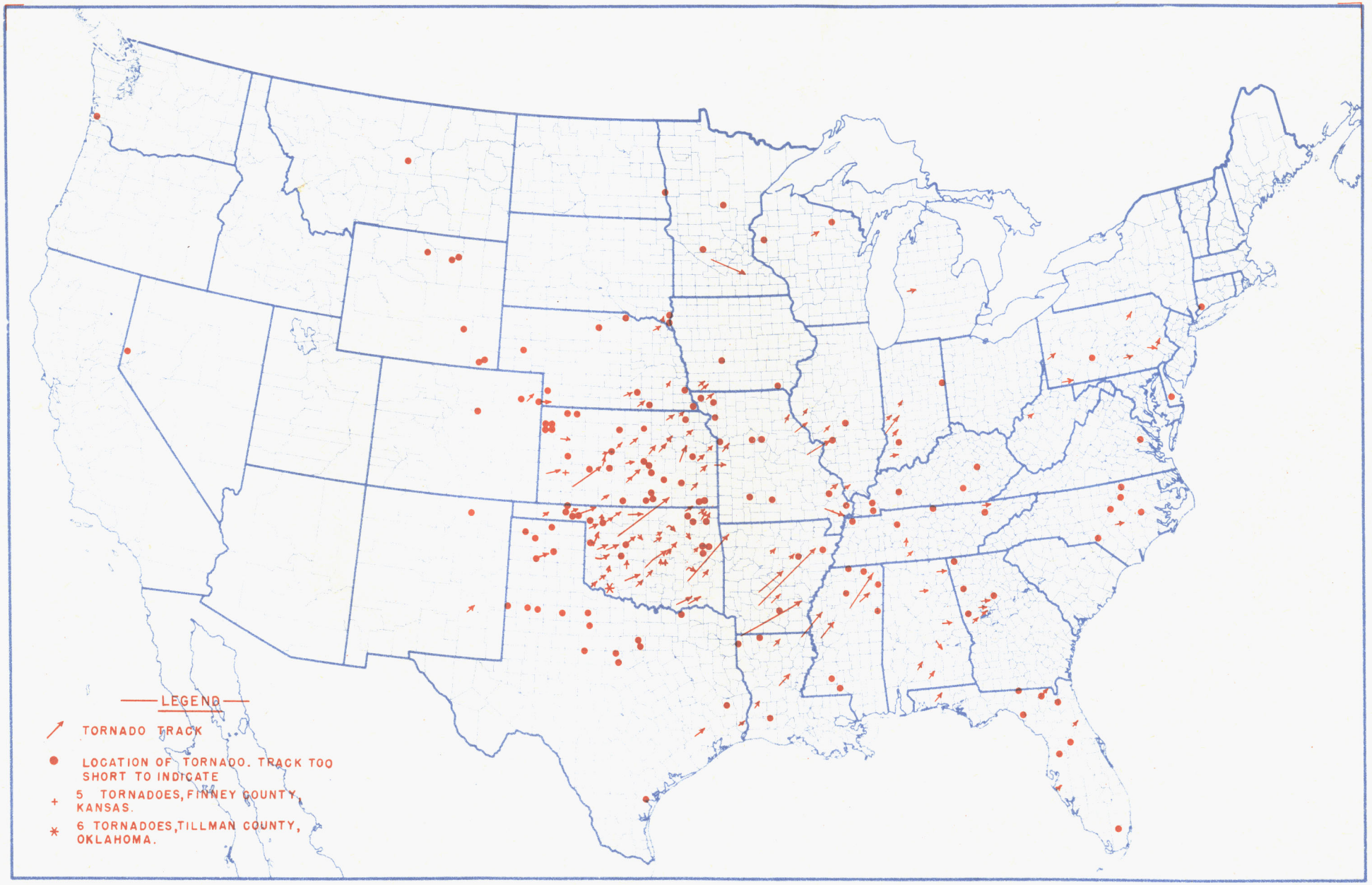
Date	States	Date	States
Jan. 3	La.-Ark.	May 21	Mo.-Ill.
Mar. 24	La.-Miss.	May 21	Mo.-Ill.
Mar. 26	Okla.-Ark.	May 21	Ill.-Ind.
Mar. 30	Okla.-Kans.	Sept. 12	Kans.-Mo.
May 20	Colo.-Nebr.		

TABLE 2.—*Tornadoes in the United States by years, 1916–49 inclusive*

Year	Number reported	Total loss of life	Most deaths in a single tornado	Total reported property losses	Number of tornadoes causing losses of	
					$100,000	$1,000,000
1916	90	150	30	$2,264,500	6	1
1917	121	509	101	15,007,700	22	5
1918	81	135	36	7,431,150	19	1
1919	65	206	59	6,861,500	9	2
1920	87	498	87	15,007,500	24	7
1921	106	202	61	5,456,300	13	1
1922	108	135	16	6,880,000	20	0
1923	102	109	23	2,968,725	8	0
1924	130	376	85	26,072,350	25	6
1925	119	794	689	24,039,900	29	1
1926	111	144	23	4,323,950	16	0
1927	164	540	92	43,455,650	28	7
1928	203	92	14	13,235,600	25	4
1929	197	274	40	10,112,400	30	1
1930	192	179	41	12,289,100	28	3
1931	94	36	6	3,215,900	7	1
1932	152	394	37	8,888,525	11	1
1933	260	362	34	16,190,640	31	5
1934	147	47	6	4,424,950	9	0
1935	182	70	11	4,661,430	15	0
1936	159	552	216	26,228,550	17	6
1937	148	29	5	3,155,875	11	0
1938	220	183	32	8,793,457	18	3
1939	155	87	27	5,891,930	10	2
1940	128	65	18	6,015,320	9	1
1941	118	53	25	4,492,650	15	0
1942	170	384	65	15,268,950	32	3
1943	154	58	5	12,198,400	25	4
1944	175	275	100	21,594,150	34	7
1945	126	210	69	21,919,800	25	8
1946	109	78	15	12,267,015	31	3
1947	171	313	169	23,994,680	42	5
1948	190	140	33	40,699,650	53	6
1949 (preliminary)	290	213	58	29,940,600	34	8
Sum	5,024	7,892	----------	465,248,797	731	102
Mean	148	232	----------	13,683,788	----------	----------

NOTE.—268 deaths occurred in Alabama during a series of tornadoes on Mar. 21, 1932.

Tracks of Tornadoes during 1949



Dots show location of tornadoes where tracks are too short to indicate on chart.